

1/7

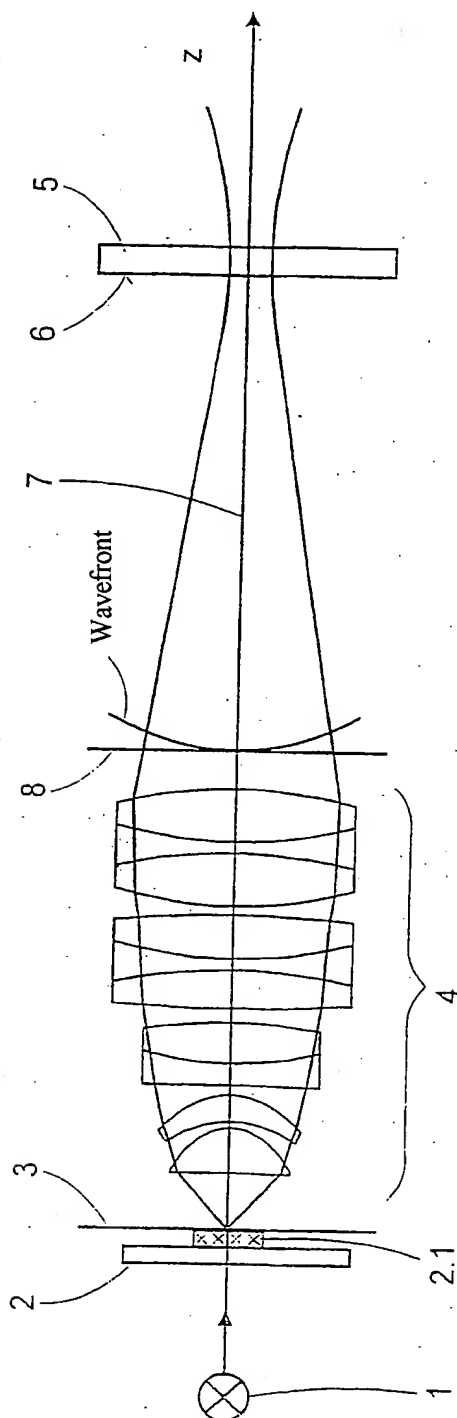


Fig.1

2/7

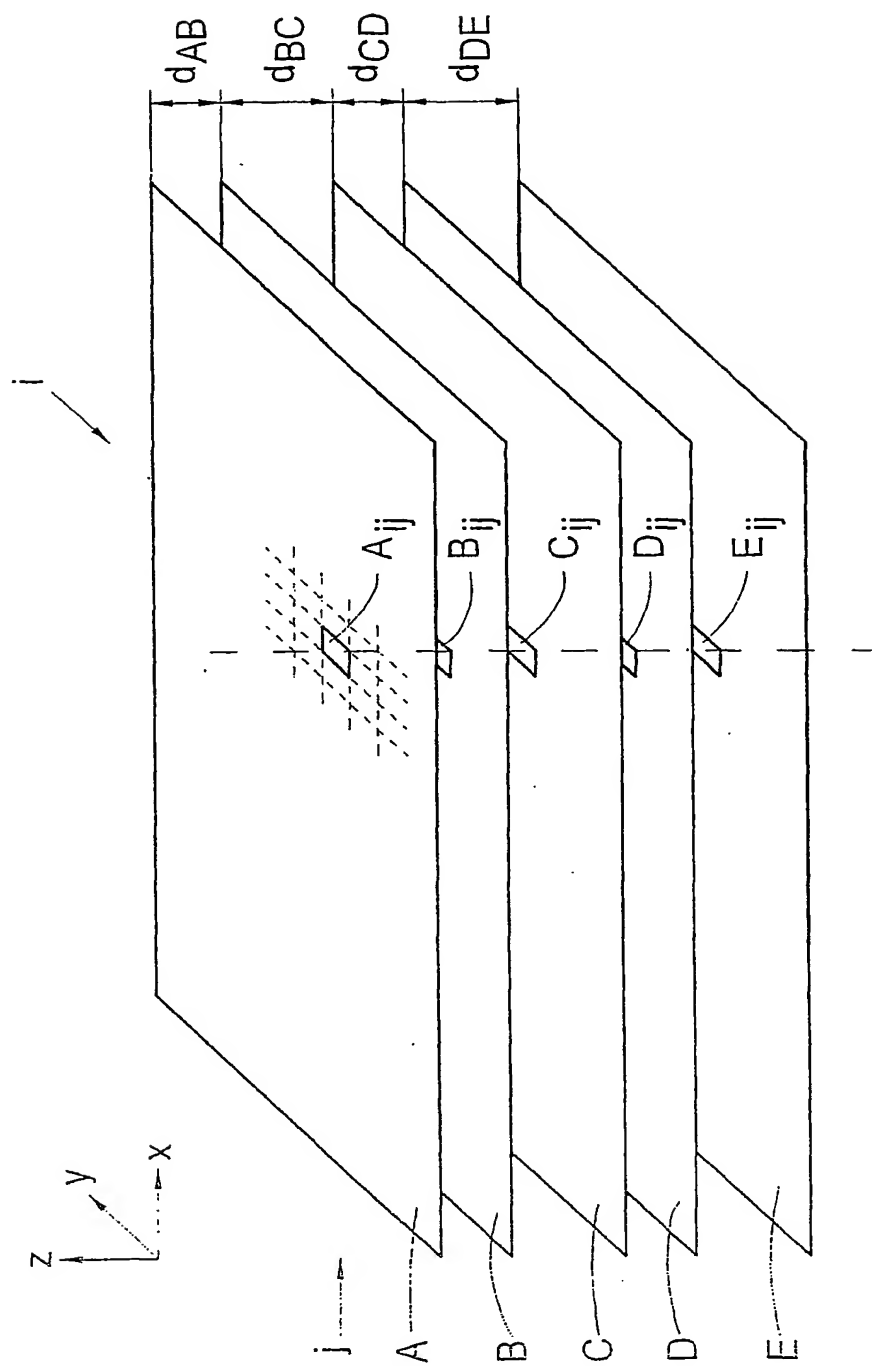


Fig.2

3/7

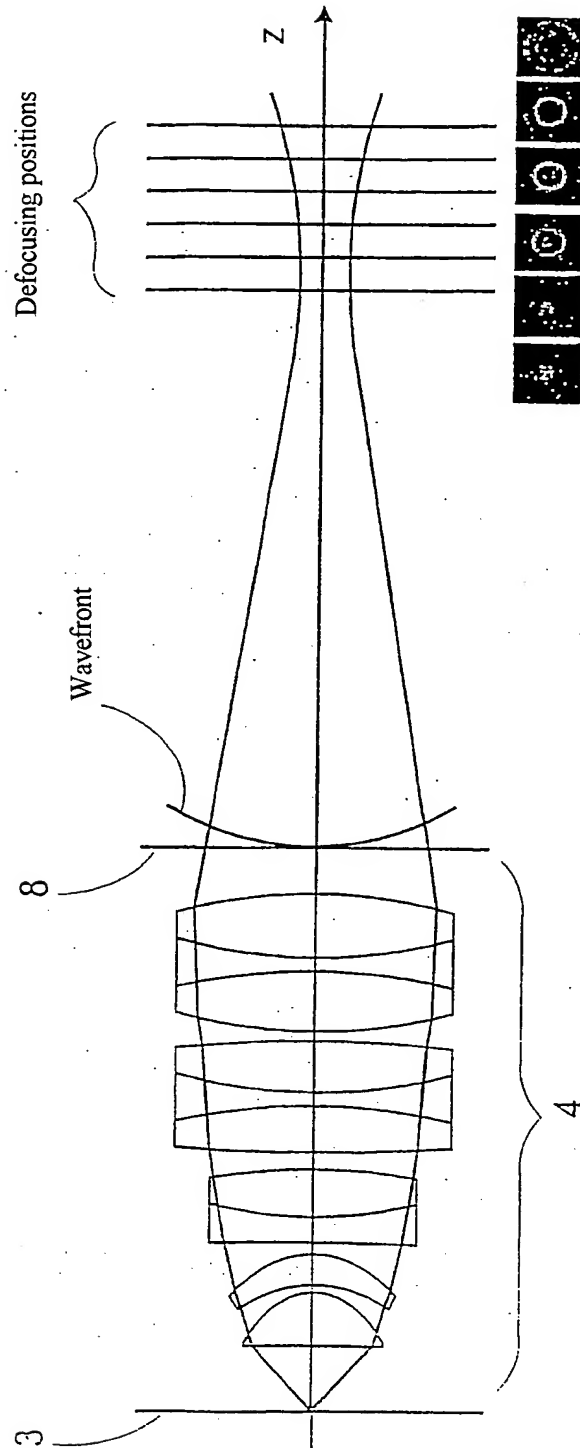


Fig.3

4/7

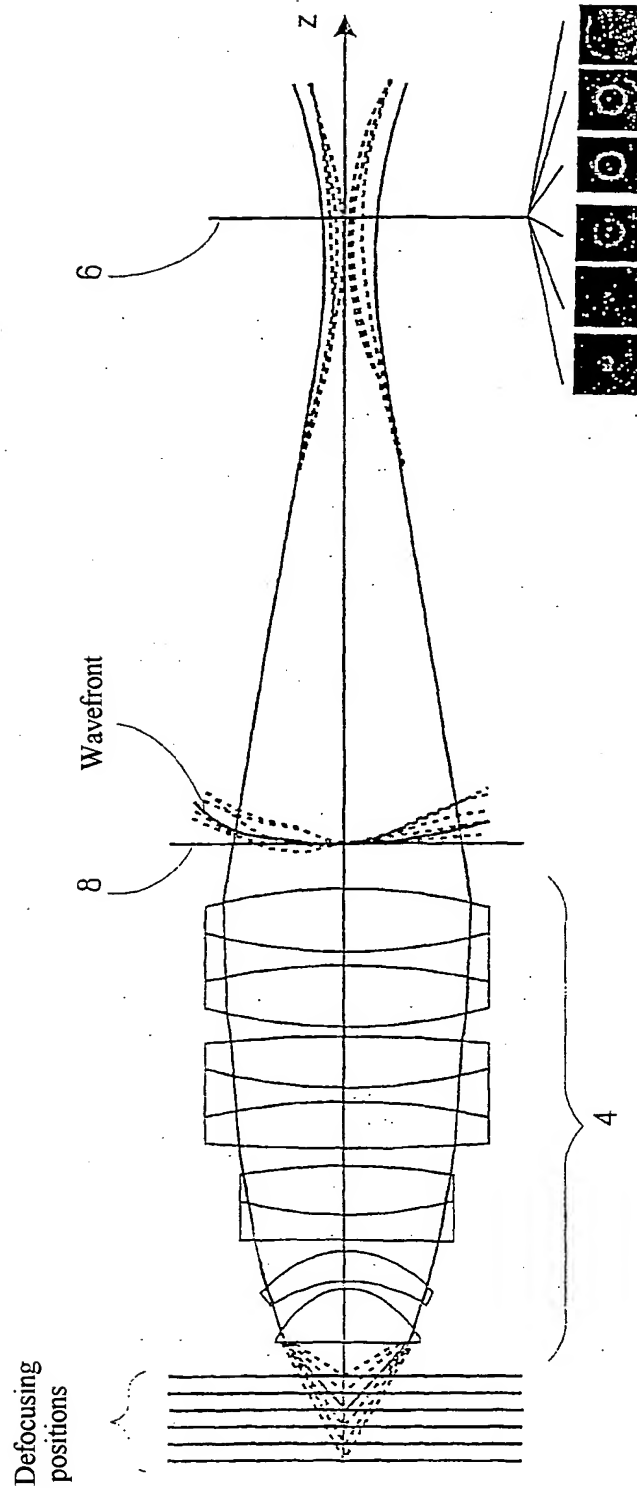


Fig.4

5/7

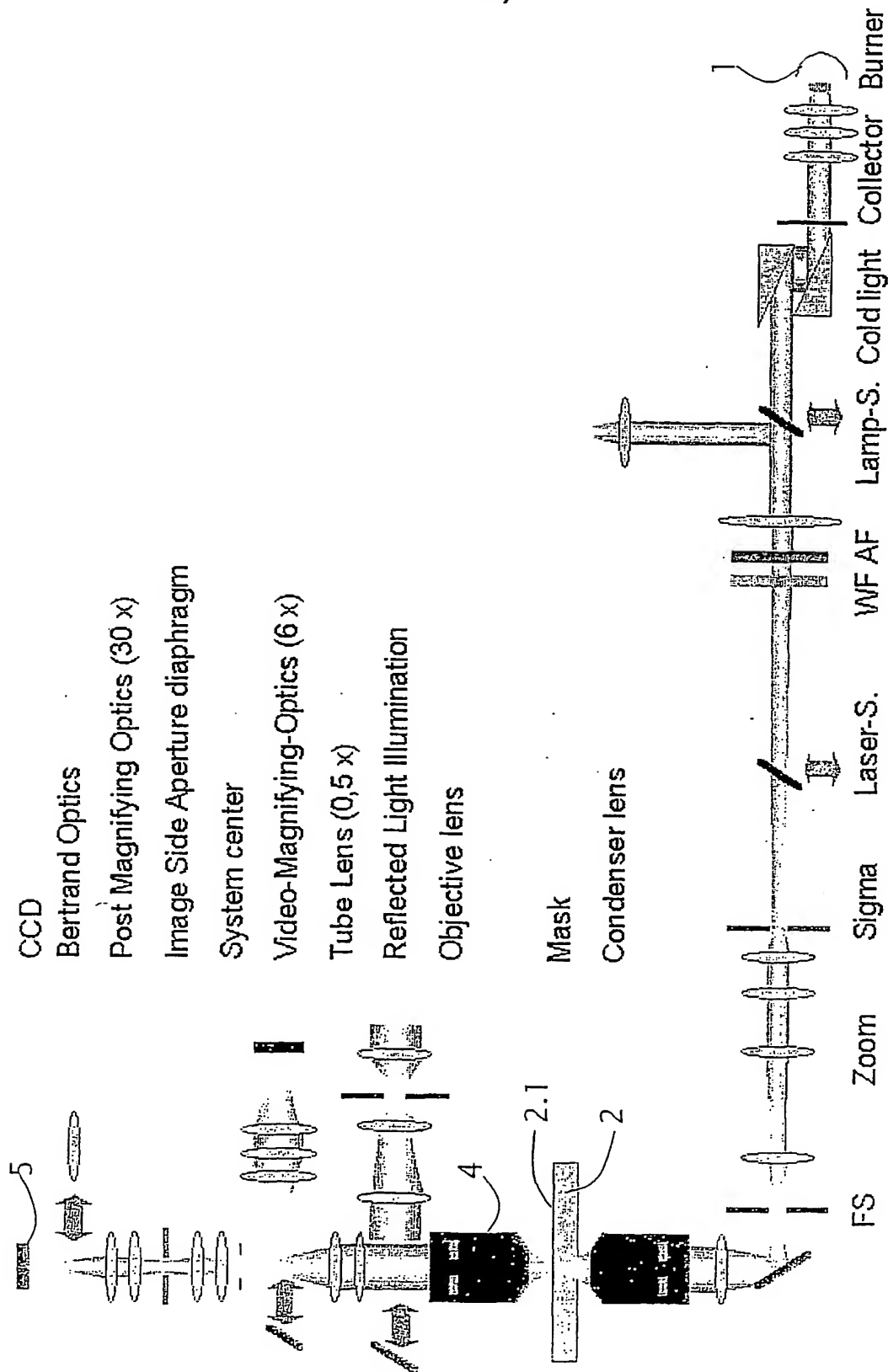


Fig.5

6/7

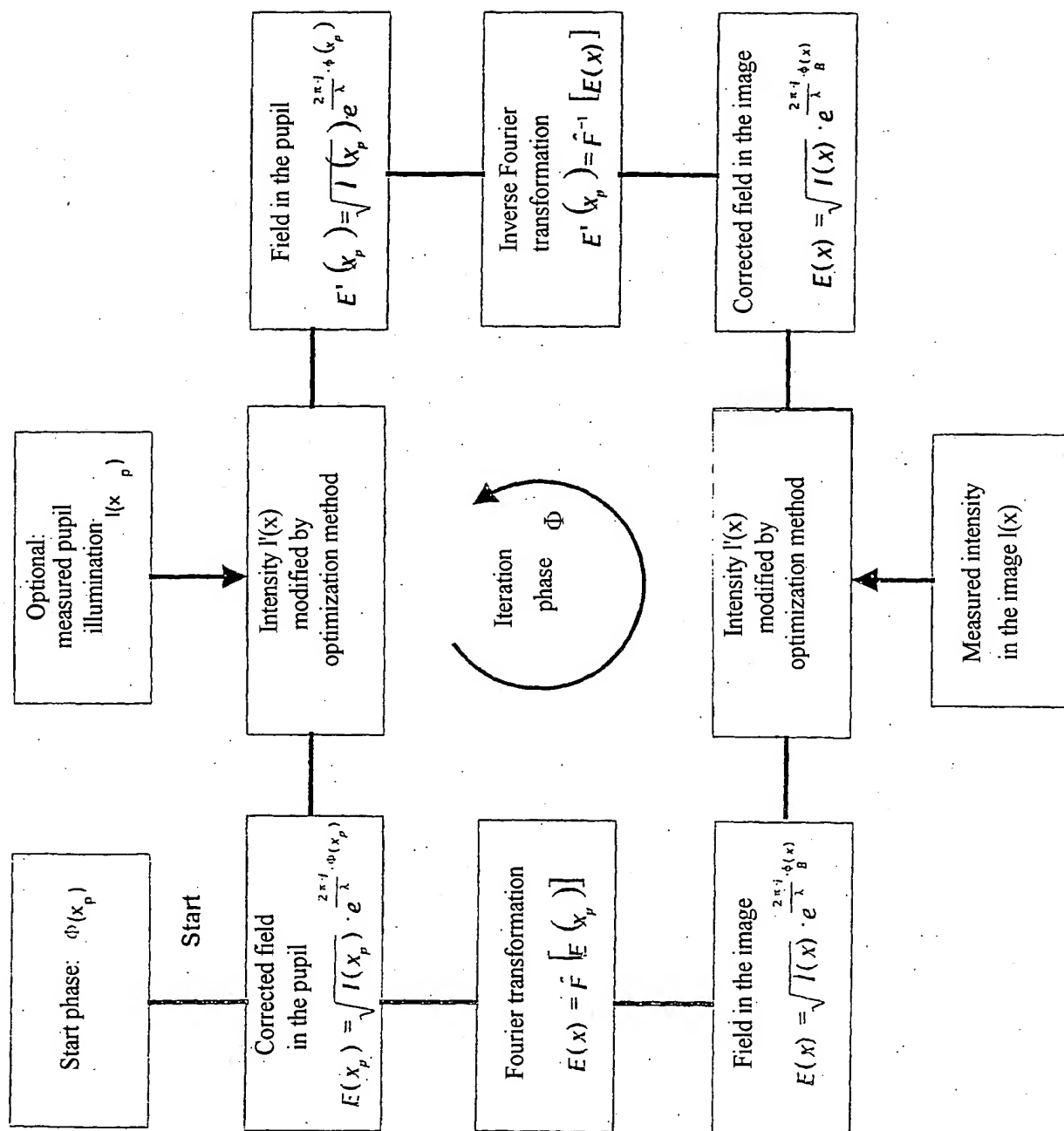


Fig.6

7/7

## Example for Zernike evaluation in an AIMS fab system at 248 nm:

Indexing after fringe scaling	Physical meaning	Analytic without object space defocusing	Iterative without object space defocusing g	Iterative with object space defocusing static Zernike value	Linear coefficient in object space defocusing
1		0	0	0	0
2		0,00851	0,02387	0,0351	0,12928
3		0,01144	-0,02163	-0,02176	-0,80338
4	Defocusing	-0,06169	-0,03453	-0,0377	-2,15459
5	Astigmatism	-0,02603	-0,04841	-0,04918	0,24001
6	Astigmatism	-0,03546	0,02668	0,05723	-0,26836
7	Coma	-0,06889	-0,08017	-0,04555	0,9295
8	Coma	-0,05611	0,07481	0,05676	-0,23595
9	Spherical	-0,07892	0,00781	-0,01562	-7,01915
10	Trefoil	0,01159	-0,03469	-0,00218	-13,8727
11	Trefoil	0,02109	0,0139	-0,02059	0,29738
12	2nd order Astigmatism	-0,00369	0,07178	0,01328	0,80823
13	2nd order Astigmatism	-0,04723	-0,00157	0,02011	5,50041
14	2nd order coma	-0,054	-0,11813	0,04267	0,32948
15	2nd order coma	-0,06647	0,03985	0,0483	0,55088
16	2nd order spherical aberration	-0,09815	0,13668	-0,12642	-0,15332
17	Quadrafoil	0,0002	-0,00802	-0,00327	-7,96513
18	Quadrafoil	-0,0086	0,06882	0,03479	0,47989
19	2nd order trefoil	0,04277	0,10738	0,03978	1,77909
20	2nd order trefoil	0,02762	-0,03653	0,03893	-0,87237
21	3rd order spherical aberration	-0,00675	-0,02135	-0,02458	6,92178
22	3rd order spherical aberration	-0,06507	-0,03913	-0,06061	0,4165
23	3rd order coma	-0,02945	0,21074	-0,10287	-1,03012
24	3rd order coma	-0,08353	-0,0928	-0,07187	-1,20287
25	3rd order spherical aberration	-0,07074	-0,07812	0,20921	0,23704
Defocusing in image space /mm		Residual	Residual	Residual	
Peak-to-Valley residuals for all focus planes	-85,5	0,13524	0,0644	0,08484	
	-42,75	0,11442	0,04932	0,05203	
	0	0,09006	0,03805	0,03563	
	42,75	0,07737	0,04418	0,0921	
	-85,5	0,06364	0,06757	0,15666	
	Mean	0,096146	0,052704	0,084252	
RMS residuals for all focus planes	-85,5	0,03039	0,0201	0,01379	
	-42,75	0,02542	0,01774	0,01162	
	0	0,02118	0,01561	0,01062	
	42,75	0,01625	0,01477	0,01269	
	85,5	0,01677	0,01716	0,02066	
	Mean	0,022402	0,017076	0,013576	

Fig.7